GLOSSARY

1995 Base Case A model simulation which provides an understanding of the how the 1995 water management system with 1995 land use and demands responds to historic (1965-1995) climatic conditions.

1995 Revised Base Case The 1995 Base Case model simulation revised to make comparisons to the incremental simulations valid. This is the beginning point for the incremental simulations.

1-in-10 Year Drought A drought of such intensity, that it is expected to have a return frequency of once in 10 years. A drought in which below normal rainfall, which has a 90 percent probability of being exceeded over a twelve-month period. This means that there is only a ten percent chance that less than this amount of rain will fall in any given year.

1-in-10 Year Level of Certainty Probability that the needs for reasonable-beneficial uses of water will be fully met during a 1-in-10 year drought.

2020 Base Case A model simulation which provides information of how the 1995 water management system would respond to anticipated future operations and demands under historic (1965-1995) climatic conditions with currently authorized restoration projects implemented, but without Restudy features.

2020 with Restudy A model simulation which provides information on how the water management system will perform with the implementation of the Restudy projects that would be completed by 2020 along with 2020 demands and operating criteria.

2005 Supply-Side Management Scenario A model simulation that used a modified version of the 2005 incremental simulation to determine the response of the regional system to modifications in Lake Okeechobee's Supply-Side Management criteria.

Acre-foot The volume of water that would cover one acre to a depth of one foot; 43,560 cubic feet; 1,233.5 cubic meters; 325,872 gallons.

Agricultural Field Scale Irrigation Requirements Simulation A simple water budget model for estimating irrigation demands that estimates demand based on basin specific data.

Agricultural Self-Supplied Water Demand The water used to irrigate crops, to water cattle, and for aquaculture (fish production), that is not supplied by a public water supply utility.

Aquifer A portion of a geologic formation or formations that yield water in sufficient quantities to be a supply source.

Aquifer Storage and Recovery (ASR) The injection of freshwater into a confined saline aquifer during times when supply exceeds demand (wet season), and recovering it during times when there is a supply deficit (dry season).

Aquifer System A heterogeneous body of intercalated permeable and less permeable material that acts as a water-yielding hydraulic unit of regional extent.

Artesian When ground water is confined under pressure greater than atmospheric pressure by overlying relatively impermeable strata.

Available Supply The maximum amount of reliable water supply including surface water, ground water and purchases under secure contracts.

Average Daily Demand A water system's average daily use based on total annual water production (total annual gallons or cubic feet divided by 365).

Average Irrigation Requirement Irrigation requirement under average rainfall as calculated by the District's modified Blaney-Criddle model.

Average Rainfall Year A year having rainfall with a 50 percent probability of being exceeded over a twelve-month period.

Backpumping The practice of pumping water that is leaving the area back into a surface water reservoir.

Basin (Ground Water) A hydrologic unit containing one large aquifer or several connecting and interconnecting aquifers.

Basin (Surface Water) A tract of land drained by a surface water body or its tributaries.

Best Management Practices (BMPs) Agricultural management activities designed to achieve an important goal, such as reducing farm runoff, or optimizing water use.

Biscayne Aquifer A portion of the Surficial Aquifer System, which provides most of the fresh water for public water supply and agriculture within Miami-Dade, Broward, and southeastern Palm Beach County. It is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations.

Boulder Zone A highly transmissive, cavernous zone of limestone within the lower Floridan aquifer.

Brackish Water with a chloride level greater than 250 mg/L and less than 19,000 mg/L.

C&SF Project Comprehensive Review Study (Restudy) A five-year study effort that looked at modifying the current C&SF Project to restore the greater Everglades and South Florida ecosystem while providing for the other water-related needs of the region. The study concluded with the Comprehensive Plan being presented to the Congress on July 1,

1999. The recommendations made within the Restudy, that is, structural and operational modifications to the C&SF Project, are being further refined and will be implemented in the Comprehensive Everglades Restoration Plan (CERP).

Central and Southern Florida Project for Flood Control and Other Purposes (C&SF Project) A complete system of canals, storage areas, and water control structures spanning the area from Lake Okeechobee to both the east and west coasts, and from Orlando south to the Everglades designed and constructed during the 1950s by the U.S. Army Corps of Engineers (USACE) to provide flood control and improve navigation and recreation.

Commercial and Industrial Self-Supplied Water Demand Water used by commercial and industrial operations using over 0.1 MGD.

Comprehensive Everglades Restoration Plan (CERP) The recommendations made within the Restudy, that is, structural and operational modifications to the C&SF Project are being further refined and will be implemented through this plan.

Cone of Influence The area around a producing well which will be affected by its operation.

Control Structures A man-made structure designed to regulate the level and/or flow of water in a canal (e.g., weirs, dams).

Consumptive Use Use that reduces an amount of water in the source from which it is withdrawn.

Consumptive Use Permit A permit issued by the SFWMD allowing utilities to withdraw ground water for consumptive use.

Demand The quantity of water needed to be withdrawn to fulfill a requirement.

District Water Management Plan (DWMP) Regional water resource plan developed by the District under Ch. 373.036, F. S.

Districtwide Water Supply Assessment (DWSA) This document includes water demand assessments and projections, and descriptions of the surface water and ground water resources within each of the SFWMD's four planning areas.

Domestic Self-Supplied Water Demand The water used by households whose primary source of water is private wells and water treatment facilities with pumpages of less than 0.5 MGD.

Domestic Use Use of water for the individual personal household purposes of drinking, bathing, cooking, or sanitation.

Drawdown The drawdown at a given point is the distance the water level is dropped.

Estuary A water passage where the ocean or sea meets a river

Evapotranspiration Water losses from the surface of soils (evaporation) and plants (transpiration).

Everglades Agricultural Area (EAA) The area of histosols (muck) predominantly to the Southeast of Lake Okeechobee which is used for agricultural production.

Everglades Construction Project The foundation for the largest ecosystem restoration program in the history of Florida. It is composed of 12 inter-related construction projects located between Lake Okeechobee and the Everglades, including over 47,000 acres of Stormwater Treatment Areas (STAs).

Exotic Nuisance Plant Species A non-native species which tends to out-compete native species and become quickly established, especially in areas of disturbance or where the normal hydroperiod has been altered.

Florida Department of Agricultural and Consumer Services (FDACS) FDACS communicates the needs of the agricultural industry to the Legislature, the FDEP, and the water management districts, and ensures participation of agriculture in the development and implementation of water policy decisions. FDACS also oversees Florida's soil and water conservation districts, which coordinate closely with the federal Natural Resources Conservation Service (NRCS).

Florida Department of Environmental Protection (FDEP) The District operates under the general supervisory authority of the FDEP which includes budgetary oversight.

Floridan Aquifer System A multiple-use aquifer system composed of the upper Floridan and lower Floridan aquifers. It is the principal source of water supply north of Lake Okeechobee and the upper Floridan aquifer is used for drinking water supply in parts of Martin and St. Lucie counties. From Jupiter to south Miami, water from the Floridan Aquifer System is mineralized (total dissolved solids are greater than 1,000 mg/L) along coastal areas and in southern Florida.

Florida Water Plan State-level water resource plan developed by the FDEP under Ch. 373.036 F.S.

F.S. Florida Statutes.

FY Fiscal Year; the District's fiscal year begins on October 1 and ends on September 30 the following year.

Governing Board Governing Board of the South Florida Water Management District.

Ground Water Water beneath the surface of the ground, whether or not flowing through known and definite channels.

Ground Water Heads Elevation of water table

Harm *(Term will be defined during proposed Rule Development process)* An adverse impact to water resources or the environment that is generally temporary and short-lived, especially when the recovery from the adverse impact is possible within a period of time of several months to several years, or less. Water shortage declarations are used to manage and mitigate such adverse impacts.

Hydropattern The pattern of inundation or saturation of an ecosystem.

Hydroperiod The frequency and duration of inundation or saturation of an ecosystem. In the context of characterizing wetlands, the term hydroperiod describes that length of time during the year that the substrate is either saturated or covered with water.

IFAS The Institute of Food and Agricultural Sciences, that is the agricultural branch of the University of Florida, performing research, education, and extension.

Incremental Simulations Model simulations performed to understand how the system would perform with partial completion of the Restudy projects and if the ability to meet the 1-in-10 year level of certainty criteria improves over time. Incremental years selected were, 2005, 2010, and 2015.

Indicator Region A grouping of model grid cells within the SFWMM consisting of similar vegetation cover and soil type. By grouping cells, the uncertainty of evaluating results from a single two by two, square mile grid cell that represents a single water management gage is reduced.

Infiltration The movement of water through the soil surface into the soil under the forces of gravity and capillarity.

Irrigation The application of water to crops, and other plants by artificial means.

Irrigation Audit A procedure in which an irrigation systems application rate and uniformity are measured.

Lake Okeechobee This lake measures 730 square miles and is the second largest freshwater lake wholly within the United States.

Leak Detection Systematic method of using listening equipment to survey the distribution system, identify leak sounds, and pinpoint the exact locations of hidden underground leaks.

LEC-1 A model simulation which provides information on how additional changes to model assumptions may alter hydrologic performance. This simulation was the first alternative plan simulated.

LEC-1A The LEC-1 simulation without consumptive water users to assist in understanding the impact that permitted consumptive uses might have on the regional system.

LEC-1 Revised This is the LEC-1 model simulation revised to include further improvements. This simulation is the end point for comparing incremental simulations.

Levee An embankment to prevent flooding, or a continuous dike or ridge for confining the irrigation areas of land to be flooded.

Marsh A frequently or continually inundated wetland characterized by emergent herbaceous vegetation adapted to saturated soil conditions.

Micro Irrigation The application of water directly to, or very near to the soil surface in drops, small streams, or sprays.

MIKE SHE An integrated surface water/ground water model, which includes a module for estimating supplemental irrigation requirements based upon land use, soil type, crop type, rainfall, and evapotranspiration.

Minimum Flows and Levels (MFL) The point at which further withdrawals would cause significant harm to the water resources.

Mobile Irrigation Laboratory A vehicle furnished with irrigation evaluation equipment which is used to carry out on-site evaluations of irrigation systems and to provide recommendations on improving irrigation efficiency.

MODFLOW A fine-scale model code created by the U.S. Geological Survey. The District uses it for subregional and ground water modeling.

NGVD National Geodetic Vertical Datum, a nationally established references for elevation data.

Natural Resources Conservation Service (NRCS) An agency of the U.S. Department of Agriculture (USDA) that provides technical assistance for soil and water conservation, natural resource surveys, and community resource protection.

Organics Being composed of or containing matter of, plant and animal origin.

Per Capita Use Total use divided by the total population served.

Permeability Defines the ability of a rock or sediment to transmit fluid.

Point Source Any discernible, confined and discrete conveyance from which pollutants are or may be discharged, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding

operation, or vessel or other floating craft. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

Potable Water Water that is safe for human consumption.

Potentiometric Head The level to which water will rise when a well is pierced in a confined aquifer.

Process Water Water used for nonpotable industrial usage, e.g., mixing cement.

Public Water Supply Demand All potable water supplied by regional water treatment facilities with pumpage of 0.5 million gallons per day (MGD) or more to all customers, not just residential.

Public Water Supply Utilities Utilities that provide potable water for public use.

Rapid Infiltration Basin (RIB)

Reasonable-Beneficial Use Use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.

Reclaimed Water Water that has received at least secondary treatment and basic disinfection and is reused after flowing out of a domestic wastewater treatment facility.

RECOVER A comprehensive monitoring and adaptive assessment program formed to perform the following for the Comprehensive Everglades Restoration Program: REstoration, COordination, and VERification.

Recreational Self-Supplied Water Demand The water used for landscape and golf course irrigation. The landscape subcategory includes water used for parks, cemeteries, and other irrigation applications greater than 0.1 MGD. The golf course subcategory includes those operations not supplied by a public water supply or regional reuse facility.

Reduced Threshold Areas (RTAs) Areas established by the District for which the threshold separating a General Permit from an Individual Permit has been lowered from the maximum limit of 100,000 GPD to 20,000 GPD. These areas are typically resource-depleted areas where there have been an established history of sub-standard water quality, saline water movement into ground or surface water bodies, or the lack of water availability to meet projected needs of a region.

Regional Water Supply Plan Detailed water supply plan developed by the District under Ch. 373.0361, F.S.

Reservoir A man-made or natural lake where water is stored.

Retrofit The replacement of existing equipment with equipment that uses less water.

Retrofitting The replacement of existing water fixtures, appliances and devices with more efficient fixtures, appliances and devices for the purpose of water conservation.

Reuse The deliberate application of water that has received at least secondary treatment, in compliance with the Florida Department of Environmental Protection and water management district rules, for a beneficial purpose.

Reverse Osmosis (RO) Common process used to produce deionized water from municipal water.

Saline Water Water with a chloride concentration greater than 250 milligrams per liter. The term saline water includes brackish water and seawater.

Saline Water Interface The hypothetical surface of chloride concentration between fresh water and seawater where the chloride concentration is 250 mg/L at each point on the surface.

Saline Water Intrusion This occurs when more dense saline water moves laterally inland from the seacoast, or moves vertically upward, to replace fresher water in an aquifer.

Seepage Irrigation Systems Irrigation systems which convey water through open ditches. Water is either applied to the soil surface (possibly in furrows) and held for a period of time to allow infiltration, or is applied to the soil subsurface by raising the water table to wet the root zone.

SEEPN A two-dimensional (vertical plane) finite element model developed at the USACE Waterways Experiment Station. It simulates steady-state subsurface flow through a multilayered aquifer system.

Semi-Confining Layers Layers with little or no horizontal flow that can store ground water and also transmit it slowly from one aquifer to another. The rate of vertical flow is dependent on the head differential between the semi-confining beds and those above and below them, as well as the vertical permeability of the sediments.

Sensitivity Analysis An analysis of alternative results based on variations in assumptions (a “what if” analysis).

Serious Harm (*Term will be defined during proposed Rule Development process)* An extremely adverse impact to water resources or the environment that is either permanent or very long-term in duration. Serious harm is generally considered to be more intense than significant harm.

Significant Harm *(Term will be defined during proposed Rule Development process)* An adverse impact to water resources or the environment, relating to an established minimum flow or level for a water body; generally temporary but not necessarily short-lived, especially when the period of recovery from the adverse impact exceeds several months to several years in duration; more intense than harm, but less intense than serious harm.

Slough A channel in which water moves sluggishly, or a place of deep muck, mud or mire. Sloughs are wetland habitats that serve as channels for water draining off surrounding uplands and/or wetlands.

South Florida Water Management Model (SFWMM) An integrated surface water-ground water model that simulates the hydrology and associated water management schemes in the majority of South Florida using climatic data from January 1, 1965, through December 31, 1995. The model simulates the major components of the hydrologic cycle and the current and numerous proposed water management control structures and associated operating rules. It also simulates current and proposed water shortage policies for the different subregions in the system.

Stage The elevation of the surface of a surface water body.

Standard Project Flood (SPF) A mathematically derived set of hydrologic conditions for a region that defines the water levels that can be expected to occur in a basin during an extreme rainfall event, taking into account all pertinent conditions of location, meteorology, hydrology, and topography.

Storm Water Surface water resulting from rainfall that does not percolate into the ground or evaporate.

Stormwater Treatment Area (STA) A system of large treatment wetlands that use naturally occurring biological processes to reduce the levels of phosphorus from agricultural runoff prior to it being released to the Everglades.

Subregional Ground Water Model A computer model that is used to simulate impacts on a smaller scale than the SFWMM, such as effects within public water supply service areas and impacts of individual wellfields.

Subsidence An example of subsidence is the lowering of the soil level caused by the shrinkage of organic layers. This shrinkage is due to biochemical oxidation.

Supply-Side Management The conservation of water in Lake Okeechobee to ensure that water demands are met while reducing the risk of serious or significant harm to natural systems.

Surface Water Water that flows, falls, or collects above the surface of the earth.

Surficial Aquifer System (SAS) The SAS is the major source of water in the LEC Planning Area. It is unconfined, consisting of varying amounts of limestone and sediments that extend from the land surface to the top of an intermediate confining unit.

SWIM Plan Surface Water Improvement and Management Plan, prepared according to Ch. 373, F. S.

Thermoelectric Self-Supplied Water Demand The difference in the amount of water withdrawn by electric power generating facilities for cooling purposes and the water returned to the hydrologic system near the point of withdrawal.

Transmissivity A term used to indicate the rate at which water can be transmitted through a unit width of aquifer under a unit hydraulic gradient. It is a function of the permeability and thickness of the aquifer, and is used to judge its production potential.

Turbidity The measure of suspended material in a liquid.

Wastewater The combination of liquid and waterborne discharges from residences, commercial buildings, industrial plants and institutions together with any ground water, surface runoff or leachate that may be present.

Water Budget An accounting of total water use or projected water use for a given location or activity.

Water Conservation Any beneficial reduction in water losses, wastes, or use.

Water-Conserving Plumbing Fixtures Fixtures that meet the standards at a test pressure of 80 psi listed below.

- Toilets - 1.6 gal/flush
- Shower Heads - 2.5 gal/min.
- Faucets - 2.0 gal/min.

Water Resource Caution Areas Areas that have existing water resource problems or are placed where water resource problems are projected to develop during the next 20 years (previously referred to as critical water supply problem areas).

Water Resource Development The formulation and implementation of regional water resource management strategies, including: the collection and evaluation of surface water and ground water data; structural and nonstructural programs to protect and manage the water resource; the development of regional water resource implementation programs; the construction, operation, and maintenance of major public works facilities to provide for flood control, surface and underground water storage, and groundwater recharge augmentation; and, related technical assistance to local governments and to government-owned and privately owned water utilities.

Watershed The drainage area from which all surface water drains to a common receiving water body system.

Water Shortage Declaration (Rule 40E-21.231, Florida Administrative Code) “If …there is a possibility that insufficient water will be available within a source class to meet the estimated present and anticipated user demands from that source, or to protect the water resource from serious harm, the Governing Board may declare a water shortage for

the affected source class." Estimates of the percent reduction in demand required to match available supply is required and identifies which phase of drought restriction is implemented. A gradual progression in severity of restriction is implemented through increasing phases. Once declared, the District is required to notify permitted users by mail of the restrictions and to publish restrictions in area newspapers.

Water Supply Development The planning, design, construction, operation, and maintenance of public or private facilities for water collection, production, treatment, transmission, or distribution for sale, resale, or end use.

Weir A barrier placed in a stream to control the flow and cause it to fall over a crest. Weirs with known hydraulic characteristics are used to measure flow in open channels.

Wetlands Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

Xeriscape™ Landscaping that involves seven principles: proper planning and design; soil analysis and improvement; practical turf areas; appropriate plant selection; efficient irrigation; mulching; and appropriate maintenance.